

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-022023

(43)Date of publication of application : 23.01.1996

(51)Int.Cl.

G02F 1/136

G02F 1/1335

G02F 1/1337

(21)Application number : 06-153535

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(22)Date of filing : 05.07.1994

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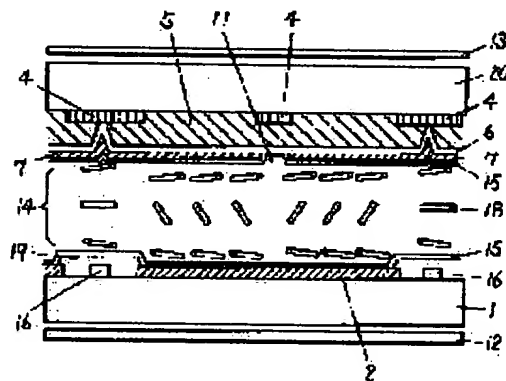
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(54) LIQUID CRYSTAL DISPLAY ELEMENT AND ITS PRODUCTION

(57)Abstract:

PURPOSE: To make it possible to exactly control the different sizes of domains of orientation and to make a visual field angle symmetrical and wider by providing the above element with electric field distortion generating sections within pixels in prescribed directions suitable for twisted nematic liquid crystals.

CONSTITUTION: An empty cell is assembled by forming pixel electrodes 2 and common electrodes 7 on an upper substrate 20 and applying oriented films 15 consisting of a polyimide A on the respective electrodes. The liquid crystals 14 formed by adding left-hand chiral additives to the nematic liquid crystals and specifying the chiral pitch to $50\mu\text{m}$ are injected into the empty cell. At this time, the liquid crystal molecules 18 in the central layer of the cell thickness direction are horizontal to the substrate and are TN oriented. The common electrodes 7 cover the parts exclusive of slits 11. These slits 11 are along the diagonal lines of the pixels by having about inclination 60° . The width thereof is about $6\mu\text{m}$ and only the parts overlapping on the pixel electrodes are opened. The slits function as the electric field distortion generating sections for distorting the electric fields of the liquid crystal layer in the pixels.



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[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]